# Rocky Flats
# Environmental Technology Site
## 4-S36-ENV-AQ.13
### REVISION 0
## RADIOACTIVE AMBIENT AIR MONITORING

APPROVED BY: [signature] / R.C. Nininger / 3/23/95
Manager, Air Quality Branch — Print Name — Date

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## 1. PURPOSE

This procedure provides instructions and requirements for radioactive ambient air monitoring within and around the Rocky Flats Environmental Technology Site, which is achieved through implementation of the Radioactive Ambient Air Monitoring Program (RAAMP).

Requirements for radioactive air monitoring contained in the following Department of Energy (DOE) Orders are fulfilled by activities directed by this procedure.

- DOE Order 5400.1, General Environmental Protection Program
- DOE Order 5480.1B, Environment, Safety, and Health Program for Department Operations
- DOE Order 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements
- DOE Order 5700.6B, Quality Assurance

## 2. SCOPE

The tasks described in this procedure apply to the Air Quality Branch (AQB) RAAMP Program Manager and Radiological Operations personnel who perform activities related to monitoring ambient air for radioactivity.

This procedure addresses the following activities:

- Biweekly air sampler inspection and fiberglass filter change
- Monthly air sampler inspection, cartridge exchange, and fiberglass filter change

This revision is a total rewrite, and revision bars are omitted.

This procedures supersedes procedure 5-21000-OPS, AP.13, Revision 0.

This revision is designated Revision 0 because the procedure number has been changed.

## 3. OVERVIEW

The RAAMP air sampler network consists of 41 high-volume ambient air samplers that collect airborne plutonium particle concentrations from the ambient air at the Rocky Flats Environmental Technology Site and in surrounding communities.

Two different types of air samplers comprise the present RAAMP air sampler network. Samplers that were in use before 1994 monitored particles less than 30 micrometers in diameter. These air samplers were replaced in 1994 by air samplers that monitor particles from 0 to 50 micrometers in diameter. Currently, both types are in use. Of the 41 existing air samplers, 36 are those installed after 1994 (referred to in this procedure as routine air samplers), and 5 are the pre-1994 air samplers. The pre-1994 air samplers are collocated with the routine air samplers to compare information collected by the two sampler types, with the exception of Sampler 005, which will be replaced by the Solar Pond Project.

Samples are gathered from air samplers located in the following areas:

- Onsite, 24 air samplers
- Perimeter, 13 air samplers
- Communities, 4 air samplers

Appendix 1, Air Sampler Locations, consists of a list that provides the location of each air sampler and maps showing those locations.

## 4. LIMITATIONS AND PRECAUTIONS

- Clean sample cartridges prepared in the laboratory and exposed sample cartridges must be handled such that no contamination of impactor pads and fiberglass filters occurs.

- Timely compositing of exposed impactor pads and fiberglass filters and preparing clean sample cartridges for installation is essential.

- Field personnel who are issued government vehicles shall comply with all regulations set forth regarding government vehicle use.

## 4. LIMITATIONS AND PRECAUTIONS (continued)

- Field personnel shall be prepared for all types of weather and dress accordingly.
- Field personnel shall wear leather boots.
- Field personnel shall carry safety glasses.
- Field personnel shall be aware of rodents, wild dogs, skunks, and rattlesnakes in remote locations.
- Field personnel shall report immediately to the nearest medical center if any of the following instances occur:
  - Animal attack
  - Insect sting
  - Injury
- The following areas and elements along the air sampler route may become hazardous depending on the season and weather conditions:
  - Steep drainage areas
  - Deep, muddy ruts
  - Barbed wire fences
  - Gates
  - Heavy vehicle traffic
  - Blowing dust, which can cause eye irritation, especially during the summer months
- Air samplers shall only be shut down for required maintenance or to prevent equipment damage from occurring. Except during cartridge exchanges, air samplers shall not be turned off without prior approval of the RAAMP Program Manager.

## 5. PREREQUISITE ACTIONS

### 5.1 Planning and Coordination

**RAAMP Program Manager**

[1] Verify that all field personnel assigned to the air sampling route:

- Are aware of any potential safety hazards associated with operating air samplers or auxiliary equipment.
- Understand the air sampler operation and its controls.
- Have a valid Colorado driver's license.
- Understand the requirements for operating a government vehicle.
- Have a safe driving record.
- Operate the government vehicle in a courteous manner.
- Understand the regulations for vehicle entry into the Protected Area (PA) and other restricted areas.

**Radiological Operations**

[2] Train field personnel in the use of this procedure.

### 5.2 Materials and Equipment

**Field Personnel**

[1] Obtain the following items for air sampler inspections:

- From the RAAMP Program Manager,
  - — Assigned keys for samplers and fences
- Assigned annually by the Environmental Restoration Department,
  - — Buffer Zone Pass
- From the Ambient Air Monitoring Station, located at Building 301,
  - — Assigned vehicle
- From the Building 123 Radiological Health Laboratories,
  - — Air Quality Branch Field Log, shown in Appendix 2, Air Quality Branch Field Log
- From Radiological Operations,
  - — Radio that is used to report emergencies that may occur within the Buffer Zone during air sampler inspection

## 5.2 Materials and Equipment (continued)

[2] Obtain the following items for air sampler inspections and cartridge and fiberglass filter exchanges:

- From the RAAMP Program Manager,
  - — Assigned keys for samplers and fences
- Assigned annually by the Environmental Restoration Department,
  - — Buffer Zone Pass
- From the Ambient Air Monitoring Station, located at Building 301,
  - — Assigned vehicle
- From the Building 123 Radiological Health Laboratories,
  - — Air Quality Branch Field Log
  - — Chain-of-Custody form
  - — Vehicle storage rack with clean cartridges
  - — Hand carrier
  - — Five envelopes for exposed filters from pre-1994 air samplers
  - — Five clean filters for pre-1994 air samplers
- From Radiological Operations,
  - — Radio that is used to report emergencies that may occur within the Buffer Zone during air sampler inspection

[3] Verify that the government vehicle contains materials for safe driving and emergency response.

[4] Ensure that adequate writing utensils are available for recording information on the Air Quality Branch Field Log.

## 6. INSTRUCTIONS—BIWEEKLY AIR SAMPLER INSPECTION AND FIBERGLASS FILTER CHANGE

On the third Monday of each month, two activities are performed by field personnel: (1) inspection of routine air samplers and (2) inspection and fiberglass filter change for the pre-1994 air samplers. These activities are completed in one day; however, activities may be completed on the next day if unexpected difficulties prevent completion in one day.

Air sampler locations and maps are provided in Appendix 1. Activities are performed in the suggested following sequence: 101, 005, 119, 211, 137, 136, 210, 168, 158, 138, 038, 207, 140, 141, 142, 209, 131, 132, 154, 201, 134, 106, 006, 107, 117, 109, 009, 110, 112, 206, 123, 205, 204, 203, 202, 116, 103, 104, 121, 208, 102

Air Sampler 136 is accessed by entering Gate 32, and Air Sampler 138 is accessed by entering Gate 15. Use of an assigned key is necessary for opening these gates. Air Sampler 005 will be changed to 125 when the Solar Pond electrical is upgraded.

### 6.1 Inspection of Routine Air Samplers

**NOTE** *Figure 1, Routine Air Sampler, depicts the parts of a routine air sampler, installed in 1994.*

**Field Personnel**

[1] Unlock the padlock that is located at the right-hand side of the air sampler cabinet using an assigned key.

[2] Unlock the air sampler cabinet door by unlatching the five door clamps located in the following places:

- One clamp on the top of the air sampler
- Three clamps on the right-hand side of the air sampler
- One clamp on the bottom of the air sampler

**6.1 Inspection of Routine Air Samplers (continued)**

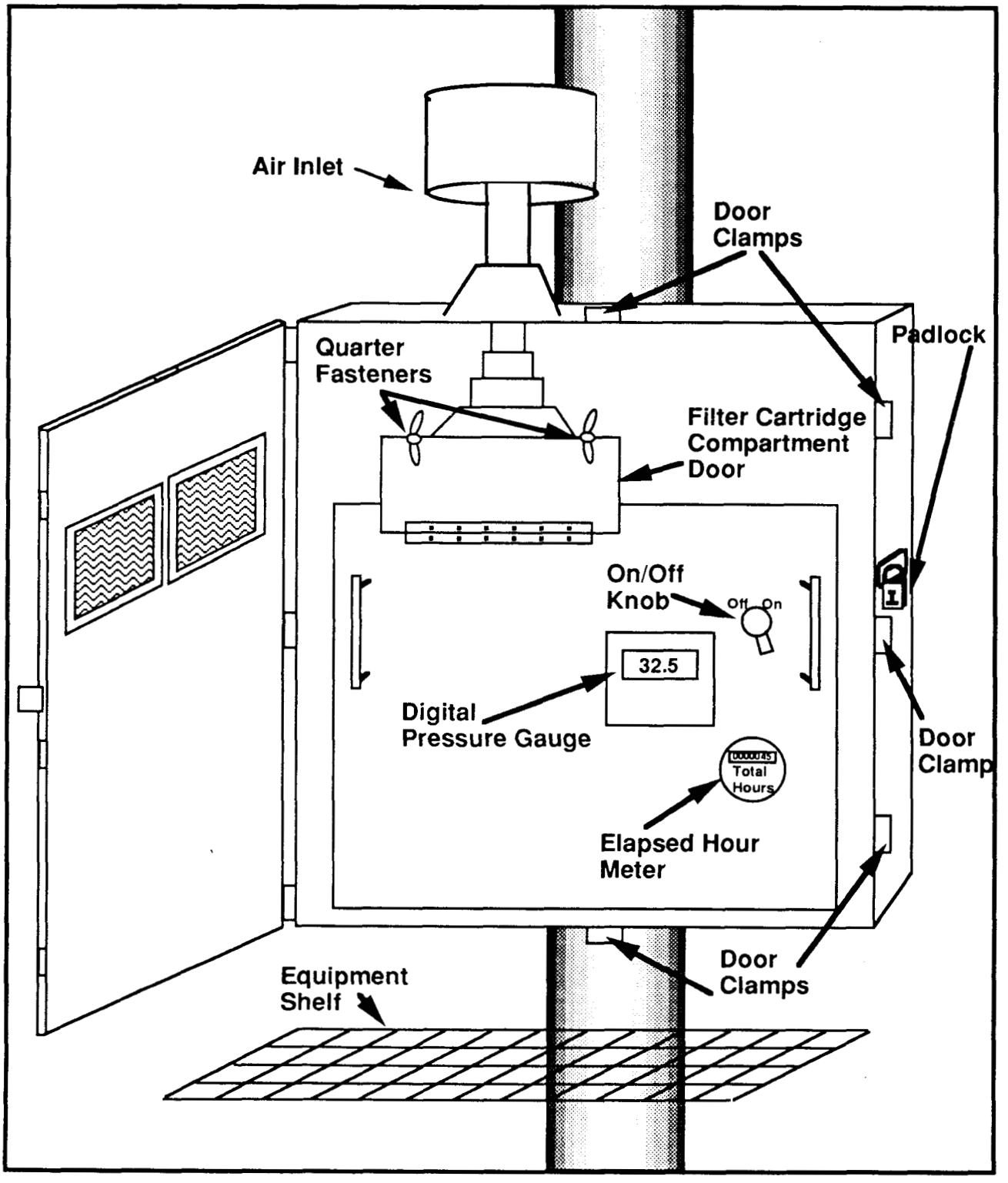


Figure 1, Routine Air Sampler

**6.1 Inspection of Routine Air Samplers (continued)**

**CAUTION**

**During windy conditions, an unsecured cabinet door may cause damage to the air sampler.**

[3] Secure the cabinet door after opening it, using the hook and chain installed on each air sampler.

[4] Visually check each air sampler for internal or external damage or evidence of electrical or mechanical malfunction.

[5] Complete the Air Quality Branch Field Log, including the following information:

- Field technician's name
- Month for which data is compiled
- Date
- Sampler number
- ON time
- Elapsed hour meter reading ON
- Digital pressure gauge reading ON
- Any comments or problems encountered

[6] Unhook the chain from the air sampler cabinet door.

[7] Close the air sampler cabinet door.

[8] Lock the air sampler cabinet door by latching the five door clamps that were unlatched in Step [2].

[9] Lock the padlock that is located at the right-hand side of the air sampler cabinet.

**6.1 Inspection of Routine Air Samplers (continued)**

[10] **IF** ANY of the following instances occur:

- Damage to an air sampler,
- Problem with an air sampler,
- Other unusual occurrence at, near, or in the area around an air sampler,

**THEN** report the encountered occurrence to the Radiological Operations Foreman when the route is finished.

[11] **IF** ANY of the following emergency situations occur:

- Live electrical wire,
- Grass fire,
- Other emergency,

**THEN** report the emergency situation to the Radiological Operations Foreman immediately.

[12] **IF** the digital pressure gauge reading is outside of the 12 to 25 in. per water range, **THEN**:

[A] Report the occurrence to the Radiological Operations Foreman at the end of the route.

[B] Document the occurrence in the Comments/Problems column of the Air Quality Branch Field Log.

[13] Submit the completed Air Quality Branch Field Log to the Radiological Operations Foreman at the end of the route.

**Radiological Operations Foreman**

[14] **IF** any emergency situation reported in Step [11] occurs,
**THEN** report that emergency situation to the RAAMP Program Manager immediately.

## 6.1 Inspection of Routine Air Samplers (continued)

[15] **WHEN** the completed Air Quality Branch Field Log is received from Field Personnel,
**THEN**:

[A] Notify the RAAMP Program Manager of any occurrence encountered and reported in Steps [10] or [12].

[B] FAX a copy of the completed Air Quality Branch Field Log to the RAAMP Program Manager.

[C] Mail a copy of the completed Air Quality Branch Field Log to the RAAMP Program Manager.

## 6.2 Inspection and Fiberglass Filter Change for Pre-1994 Air Samplers

**NOTE** *Figure 2, Pre-1994 Air Sampler, depicts the parts of an older sampler, five of which are collocated with the routine air samplers.*

[1] Unlock the padlock that is located at the front side of the air sampler, using an assigned key.

**CAUTION**

**During windy conditions, an unsecured cabinet door may cause damage to the air sampler.**

[2] Secure the cover open by latching the hook to the electrical pole attachment.

[3] Record the sampler flow meter data on the pre-labeled envelope.

[4] Open all clamps that hold down the metal frame by lifting each one upward.

[5] Remove the metal frame and rubber seal and place them to the side.

[6] Remove the filter paper from the fine mesh support screen.

**6.2 Inspection and Fiberglass Filter Change for Pre-1994 Air Samplers (continued)**

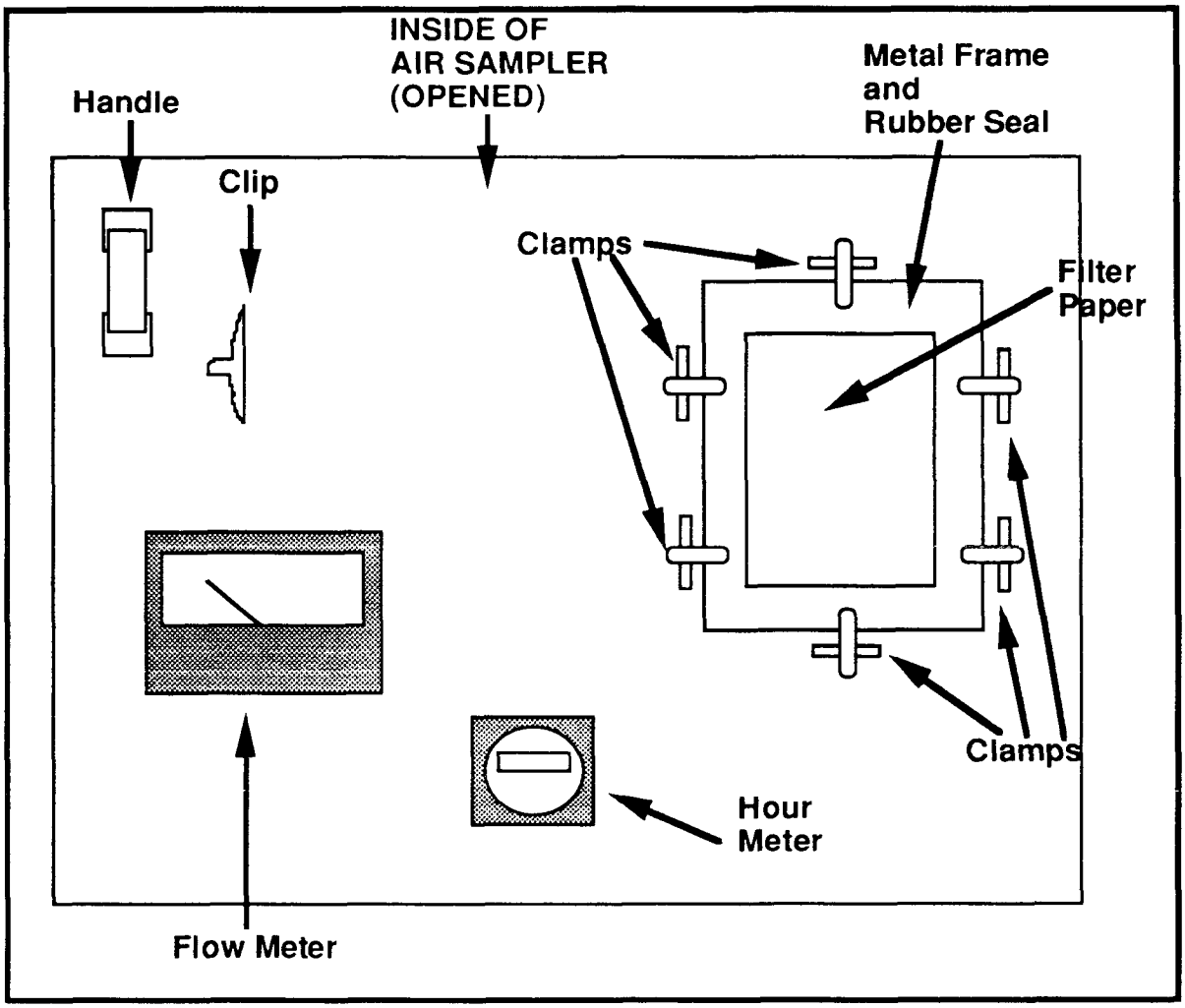


Figure 2, Pre-1994 Air Sampler

[7] Fold the filter paper with the exposed side inward.

[8] Place the folded paper into the pre-labeled envelope.

[9] Place envelope, with filter, on the clip that is attached to the air sampler.

## 6.2 Inspection and Fiberglass Filter Change for Pre-1994 Air Samplers (continued)

[10] Install the clean filter:

[A] Place the clean filter on the fine mesh support screen.

[B Replace the rubber seal by fitting it over the position-locating pins.

[C] Replace the metal frame by fitting it over the position-locating pins.

[11] Close all retaining clamps.

[12] Record the sampler identification number on the pre-labeled envelope.

[13] Remove the envelope, with filter, from the sampler clip, storing it in the government vehicle.

[14] Record the following information on page 3 of the Air Quality Branch Field Log for both the Initial Reading and the Final Reading sampling periods:

- Date
- Meter reading
- Air flow
- Any problems or unusual situations encountered including, but not limited to, the following:
  - — Equipment failure
  - — Broken latches
  - — Torn gaskets
  - — Bent screens
  - — Missing hooks
  - — Unusual observations on the sampler, such as oil spots
  - — Weather conditions
  - — Construction around the air sampler

**6.2 Inspection and Fiberglass Filter Change for Pre-1994 Air Samplers (continued)**

[15] **IF** ANY of the following emergency situations occur:

- Live electrical wire,
- Grass fire,
- Other emergency,

**THEN** report the emergency situation to the Radiological Operations Foreman immediately.

[16] **IF** the observed flow rates are less than 0.5 $m^3$/min,
**THEN**:

[A] Report the occurrence to the Radiological Operations Foreman at the end of the route.

[B] Document the occurrence in the Comments/Problems column of the Air Quality Branch Field Log.

[17] Deliver the following items to the Building 123 Radiological Health Laboratories Receiving Station at the end of the day, even when the route has been delayed:

- All pre-1994 air sampler envelopes with exposed filters
- A copy of the Air Quality Branch Field Log

[18] Complete a Chain-of-Custody form at the Building 123 Radiological Health Laboratories at the end of the route.

[19] Provide a copy of the completed Air Quality Branch Field Log to the Radiological Operations Foreman at the end of the route or as soon as possible thereafter.

**Radiological Operations Foreman**

[20] **IF** any emergency situation reported in Step [15] occurs,
**THEN** report that emergency situation to the RAAMP Program Manager immediately.

## 6.2 Inspection and Fiberglass Filter Change for Pre-1994 Air Samplers (continued)

[21] **WHEN** the completed Air Quality Branch Field Log is received from Field Personnel,
**THEN**:

[A] Notify the RAAMP Program Manager of any occurrence encountered and reported in Step [16].

[B] FAX a copy of the completed Air Quality Branch Field Log to the RAAMP Program Manager.

[C] Mail a copy of the completed Air Quality Branch Field Log to the RAAMP Program Manager.

## 7. INSTRUCTIONS—MONTHLY AIR SAMPLER INSPECTION, CARTRIDGE EXCHANGE, AND FIBERGLASS FILTER CHANGE

On the first Monday of each month, two activities are performed by field personnel: (1) inspection and cartridge exchange of routine air samplers, and (2) inspection and fiberglass filter change for the pre-1994 air samplers. These activities are completed in one day; however, activities may be completed on the next day if unexpected difficulties prevent completion in one day.

The Air Quality Branch Field Log is used to document the operational history of each air sampler; the Chain-of-Custody form is used to document the return of exposed cartridges to the Building 123 Radiological Health Laboratories.

Air sampler locations and maps are provided in Appendix 1. Activities for air samplers are performed in the following suggested sequence: 101, 005, 119, 211, 137, 136, 210, 168, 158, 138, 038, 207, 140, 141, 142, 209, 131, 132, 154, 201, 134, 106, 006, 107, 117, 109, 009, 110, 112, 206, 123, 205, 204, 203, 202, 116, 103, 104, 121, 208, 102.

Air Sampler 136 is accessed by entering Gate 32, and Air Sampler 138 is accessed by entering Gate 15. Use of an assigned key is necessary for opening these gates. Air Sampler 005 will be changed to 125 when the Solar Pond electrical is upgraded.

If a clean sample cartridge is damaged in the field, Field Personnel take the damaged sample cartridge to the Building 123 Radiological Health Laboratories for repair at the end of the route. The existing cartridge remains in the air sampler.

### 7.1 Inspection and Cartridge Exchange for Routine Air Samplers

**NOTE 1** *Each routine air sampler has its own two cartridges that will be used only for that air sampler. The cartridges are marked A or B.*

**NOTE 2** *Steps [1] and [2] are performed at the Building 123 Radiological Health Laboratories when picking up items listed in Section 5.2, Step [2].*

## 7.1 Inspection and Cartridge Exchange for Routine Air Samplers (continued)

**NOTE 3** *Figure 1, Routine Air Sampler, which depicts the parts of a Routine Air Sampler, is on page 10.*

**Field Personnel**

[1] Check each cartridge to see that:

- It is correctly loaded with an oily pad and fiberglass backup filter.
- The numbers on the cartridges match the air sampler numbers.
- The cartridge carriers match the order in which the route will be executed.

[2] Secure the vehicle storage rack in an upright position in the bed of the vehicle.

[3] Carefully remove the clean cartridge from the vehicle storage rack.

[4] **IF** the clean cartridge has oil on the rim,
**THEN** wipe the cartridge with a paper wipe.

[5] Verify that the new cartridge number matches the air sampler number.

[6] Place the clean cartridge in the hand carrier.

[7] Secure the latch on the door of the hand carrier.

[8] Take the hand carrier with the clean cartridge to the sampler, taking care to carry the hand carrier upright, by its handle.

[9] Place the hand carrier on the equipment shelf.

[10] Unlock the padlock that is located at the right-hand side of the air sampler cabinet, using an assigned key.

[11] Unlock the air sampler cabinet door by unlatching the five door clamps located in the following places:

- One clamp on the top of the air sampler
- Three clamps on the right-hand side of the air sampler
- One clamp on the bottom of the air sampler

**7.1 Inspection and Cartridge Exchange for Routine Air Samplers (continued)**

**CAUTION**

**During windy conditions, an unsecured cabinet door may cause damage to the air sampler.**

[12] Secure the cabinet door after opening it, using the hook and chain installed on each air sampler.

[13] Record the following information on the Air Quality Branch Field Log:

- Digital pressure gauge reading OFF
- Elapsed hour meter reading ON
- OFF time

**NOTE** *The air sampler is always on except during cartridge exchange.*

[14] Turn the air sampler ON/OFF knob to the OFF position.

[15] Record the zero reading of the digital pressure gauge on the Air Quality Branch Field Log.

[16] Open the door of the hand carrier, allowing the hand carrier itself to remain on the equipment shelf.

[17] Open the cartridge compartment door by twisting the two quarter fasteners 90 degrees counterclockwise.

[18] Remove the exposed cartridge by pulling it directly out of its compartment using your two index fingers.

**7.1 Inspection and Cartridge Exchange for Routine Air Samplers (continued)**

**NOTE** *Figure 3, Cartridge and Hand Carrier, shows the parts of the cartridge and hand carrier.*

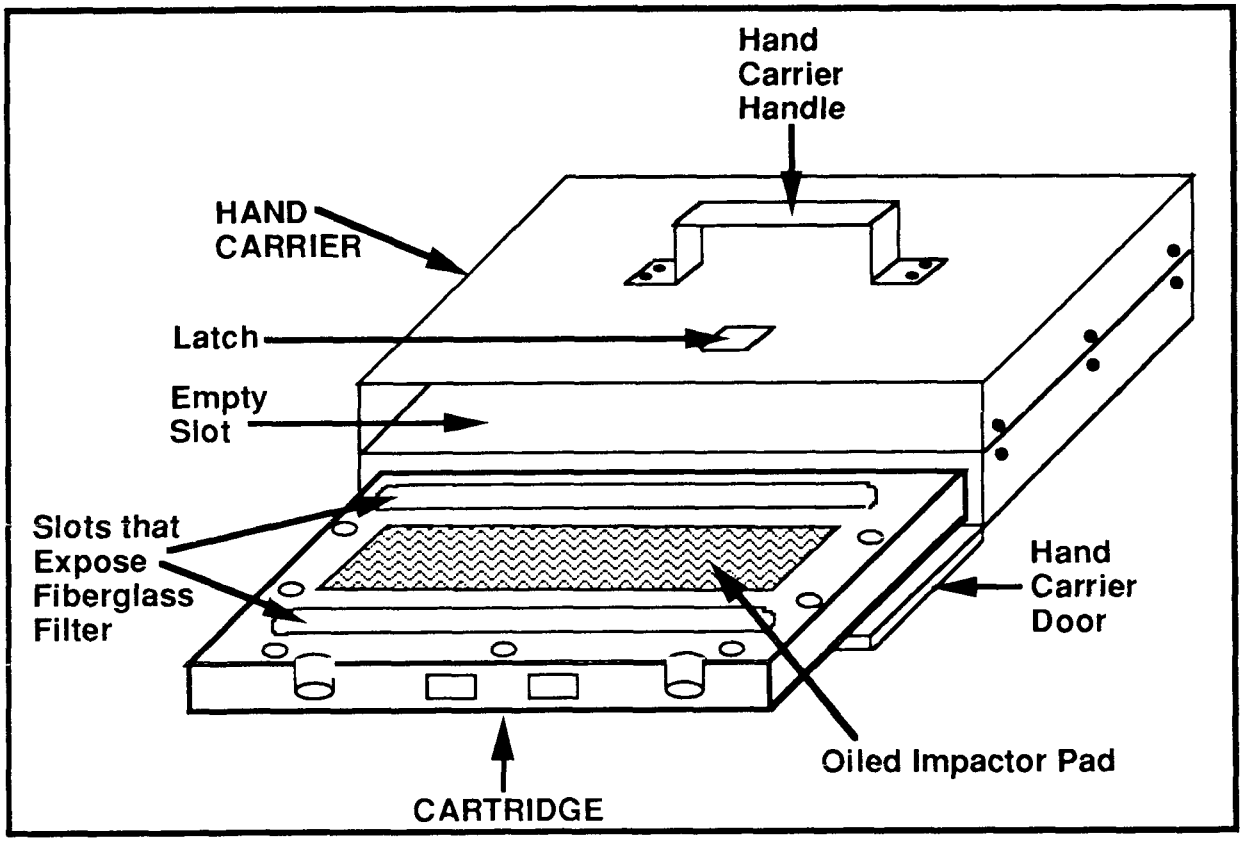


Figure 3, Cartridge and Hand Carrier

[19] **IF** the cartridge is frozen in place,
**THEN** loosen the cartridge by slipping the cartridge extension tool under the cartridge and pulling up.

[20] **IF** the cartridge cannot be loosened,
**THEN**:

[A] Record the occurrence on the Air Quality Branch Field Log.

[B] Proceed to the next air sampler.

**7.1 Inspection and Cartridge Exchange for Routine Air Samplers (continued)**

[C] Report the occurrence to the Radiological Foreman at the end of the route.

[21] Observe the appearance of the fiberglass filter and oiled impactor pad for the following:

- Oil spots
- Tears
- Insects
- Damage
- Unusual spots
- Other abnormalities

[22] Record, in the Comments/Problems column of the Air Quality Branch Field Log, any abnormalities found.

[23] **IF** an insect is found on the fiberglass filter or oiled impactor pad,
**THEN**:

[A] Leave the insect on the fiberglass filter or oiled impactor pad.

[B] Note the occurrence in the Comments/Problems column of the Air Quality Branch Field Log.

[24] Place the exposed cartridge in the empty slot of the hand carrier.

[25] Inspect the inside of the cartridge compartment and the door for any damage to the gasket material.

[26] **IF** any damage to the gasket material is found,
**THEN:**

[A] Record the damage on the Air Quality Branch Field Log.

[B] Report the damage to the Radiological Operations Foreman no later than the end of the route that day.

## 7.1 Inspection and Cartridge Exchange for Routine Air Samplers (continued)

[27] Carefully remove the clean cartridge from the hand carrier.

[28] Slide the clean cartridge into the cartridge compartment of the air sampler.

[29] Ensure that the side labeled either "A" or "B" points out.

[30] Ensure that the clean cartridge is seated snugly against the bottom gasket of the cartridge compartment.

[31] Lift and close the cartridge compartment door and secure it by twisting the two quarter fasteners 90 degrees clockwise.

The cartridge compartment door closes more easily when the top of the compartment door is squeezed against the compartment itself while the quarter fasteners are twisted.

[32] Turn the air sampler ON/OFF knob to the ON position.

[33] Record the following information on the Air Quality Branch Field Log:

- Field Technician
- Month for which data is collected
- Date
- Sampler number
- Cartridge identification (A or B)
- ON time
- Digital pressure gauge reading ON
- Any problems or unusual situations encountered including, but not limited to, the following:
  - — Equipment failure
  - — Broken latches
  - — Unusual observations on the sampler, such as oil spots
  - — Weather conditions
  - — Construction around the air sampler

[34] Close the air sampler cabinet door.

**7.1 Inspection and Cartridge Exchange for Routine Air Samplers (continued)**

[35] Unhook the chain from the sampler door.

[36] Lock the air sampler cabinet door by latching the five door clamps that were unlatched in Step [11].

[37] Lock the padlock that is located at the right-hand side of the air sampler cabinet.

[38] Secure the hand carrier door.

[39] Take the hand carrier with the exposed cartridge to the vehicle, making sure to carry the hand carrier upright, by its handle.

[40] Take the exposed cartridge out of the hand carrier and carefully place it in the section of the vehicle storage rack that is reserved for exposed cartridges.

[41] **IF** ANY of the following emergency situations occur:

- Live electrical wire,
- Grass fire,
- Other emergency,

**THEN** report the emergency situation to the Radiological Operations Foreman immediately.

[42] **IF** the digital pressure gauge reading is outside of the 12 to 25 in. per water range, **THEN**:

[A] Report the occurrence to the Radiological Operations Foreman as soon as possible.

[B] Document the occurrence in the Comments/Problems column of the Air Quality Branch Field Log.

## 7.1 Inspection and Cartridge Exchange for Routine Air Samplers (continued)

**NOTE** *The Building 123 Radiological Health Laboratories functions as the sole custodian of all exposed cartridges and clean cartridges.*

[43] Deliver the following items to the Building 123 Radiological Health Laboratories Receiving Station at the end of the route, even when the route has been delayed:

- All routine air sampler exposed cartridges
- A copy of the Air Quality Branch Field Log

[44] Dispose of any soiled paper wipes at the Building 123 Radiological Health Laboratories.

[45] Complete a Chain-of-Custody form at the Building 123 Radiological Health Laboratories at the end of the route.

[46] Provide a copy of the completed Air Quality Branch Field Log to the Radiological Operations Foreman at the end of the route.

**Radiological Operations Foreman**

[47] **IF** any emergency situation reported in Step [41] occurs,
**THEN** report that emergency situation to the RAAMP Program Manager immediately.

[48] **WHEN** the completed Air Quality Branch Field Log is received from Field Personnel,
**THEN**:

[A] Notify the RAAMP Program Manager of any occurrence encountered and reported in Steps [26] or [42].

[B] FAX a copy of the completed Air Quality Branch Field Log to the RAAMP Program Manager.

[C] Mail a copy of the completed Air Quality Branch Field Log to the RAAMP Program Manager.

### 7.2 Inspection and Fiberglass Filter Change for Pre-1994 Air Samplers

Go to Section 6.2, Inspection and Fiberglass Filter Change for Pre-1994 Air Samplers.

## 8. POST-PERFORMANCE ACTIVITY

### 8.1 Disposition

The Chain-of-Custody forms and the Air Quality Branch Field Log generated by this procedure are considered Quality Assurance Records.

**RAAMP Program Manager**

[1] Maintain Quality Assurance Records in accordance with 1-77000-RM-001, Records Management Guidance for Records Sources.

## 9. REFERENCES

DOE Order 5400.1, General Environmental Protection Program

DOE Order 5480.1B, Environment, Safety, and Health Program for Department Operations

DOE Order 5484.1, Environmental Protection, Safety, and Health Protection Information Reporting Requirements

DOE Order 5700.6B, Quality Assurance

1-77000-RM-001, Records Management Guidance for Records Sources

## APPENDIX 1

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### AIR SAMPLER LOCATIONS
24 ONSITE AIR SAMPLERS

| Air Sampler No. | Location |
|---|---|
| S-101 | West of Bldg. 778 on the south side of Solar Ponds 207A and B |
| S-102 | East of Bldg. 549 |
| S-103 | North of Bldgs. 371/374 on the perimeter road |
| S-104 | North of Solar Pond 207C on the perimeter road |
| S-106 | East of the Sewage Treatment Plant (collocated with S-006) |
| S-107 | South of the East Guard Gate (collocated with S-007) |
| S-109 | 0.1 mile south of the East Guard Gate (collocated with S-009) |
| S-110 | Halfway between Bldg. 881 and the East Guard Gate (southwest of the 904 pad) |
| S-112 | Northeast corner of Cedar Ave. and 7th street |
| S-116 | West of Bldg. 371 outside of the Protected Area |
| S-119 | Intersection of Central Ave. and the 903 asphalt road |
| S-121 | Intersection of the A ponds access road and the perimeter road |
| S-123 | Southwest of the 904 pad on the buffer zone road |
| S-202 | South of the meteorological tower west of the plantsite |
| S-203 | 0.25 mile west of the T130 trailer complex on the north side of the west access road at the temporary OU sampler 102 location |
| S-204 | South of Bldg. 131 in the Woman Creek drainage at the temporary OU sampler 101 location |
| S-205 | South of the 400 buildings in the Woman Creek drainage at the temporary OU sampler 100 location |
| S-206 | East of Pond C-2 in buffer zone |
| S-208 | Northeast of Pond A-4 in the buffer zone |
| S-211 | CDPHE sampling platform along the east access road (east edge of IHSS 216.3 (OU2)) |
| *S-005 | Off of Spruce Avenue in the PA, directly east of Solar Pond 207 B, east of Parking Area 71. This sampler will be replaced by S-125 during the Solar Pond upgrade. |
| *S-006 | East of the Sewage Treatment Plant (collocated with S-106) |
| *S-007 | South of the East Guard Gate (collocated with S-107) |
| *S-009 | 0.1 mile south of the East Guard Gate (collocated with S-109) |

*Pre-1994 RAAMP Samplers

**APPENDIX 1**
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13 PERIMETER AIR SAMPLERS
(Located 2-4 miles from the center of the Rocky Flats Environmental Technology Site)

| | |
|---|---|
| S-131 | Northeast corner of Highway 93 and the west access road |
| S-132 | East side of Highway 93, 1.3 miles north of S-131 |
| S-134 | One pole west of CDPHE Air Sampling Station on the south side of Hwy. 128 |
| S-136 | East of the buffer zone inside gate P-15 on the west side of Indiana St. |
| S-137 | Intersection of Indiana St. and the east access road, NW corner |
| S-138 | West side of Indiana St., 0.8 mile south of the east access road (collocated with S-038) |
| S-140 | Intersection of Indiana St. and Hwy. 72 |
| S-141 | North side of Hwy. 72, 1.3 miles west of Indiana St. |
| S-142 | North side of Hwy. 72, 2.9 miles west of Indiana St. |
| S-201 | Southeast of the Wind Site across the access road |
| S-207 | West side of Indiana St. across from nearest residence |
| S-209 | North side of Hwy. 72, 0.4 miles east of Hwy. 93 |
| *S-038 | West side of Indiana St., 0.8 miles south of the East access road (collocated with S-138) |

*Pre-1994 RAAMP Sampler

4 COMMUNITY AIR SAMPLERS
(Located in communities surrounding Rocky Flats)

| | |
|---|---|
| S-154 | Boulder, east of Curie Circle, across from Bldg. 25 in the National Bureau of Standards (NBS) complex |
| S-158 | Wagner station south of 96th Ave. on Alkire St. |
| S-168 | Southwest corner of the intersection of 100th Ave. and Simms St. |
| S-210 | 100 feet north of the intersection of 108th Ave. and Simms St. (west side of Simms St.) |

**APPENDIX 1**
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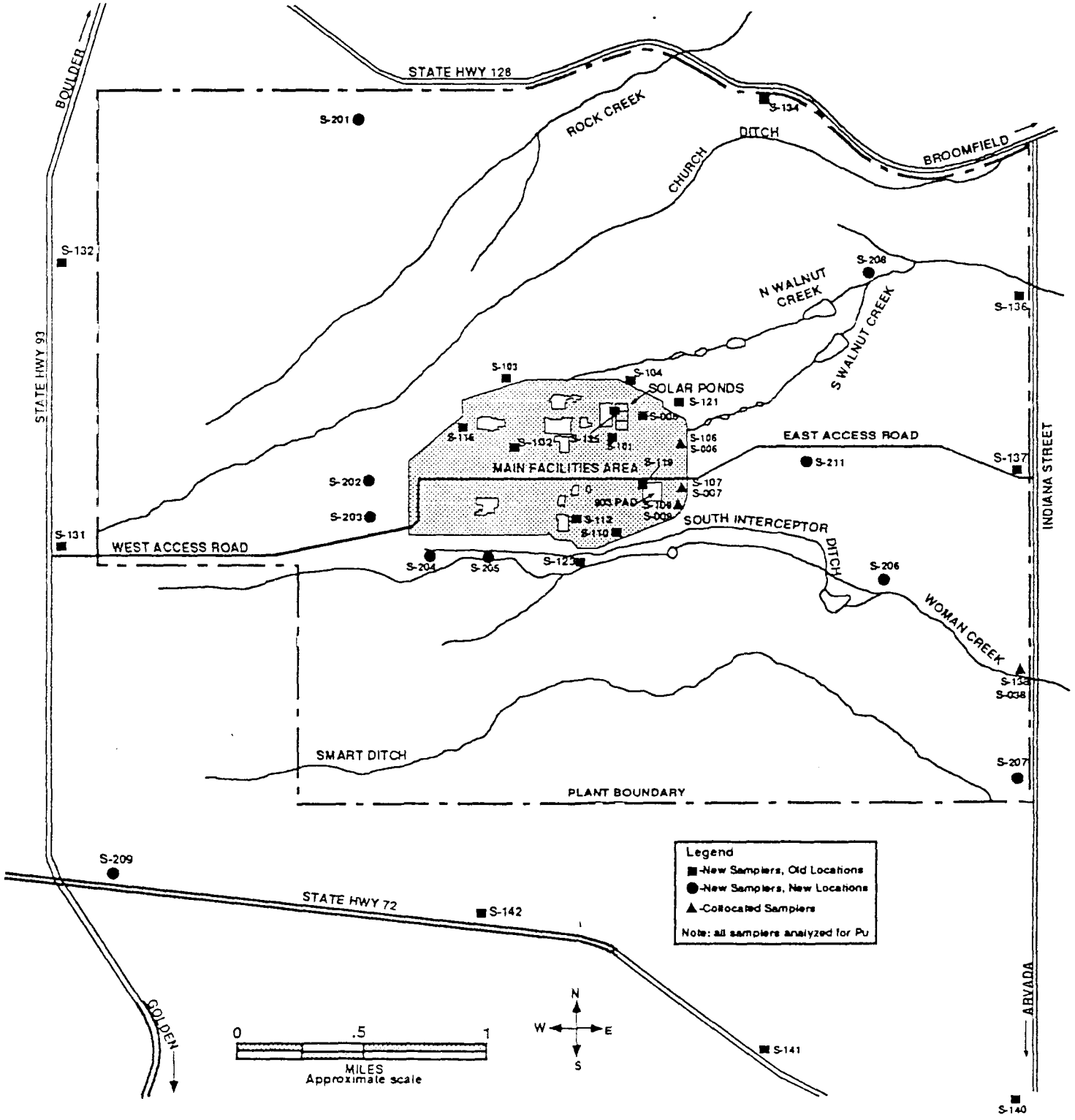
ONSITE AND PERIMETER AIR SAMPLERS



**APPENDIX 1**
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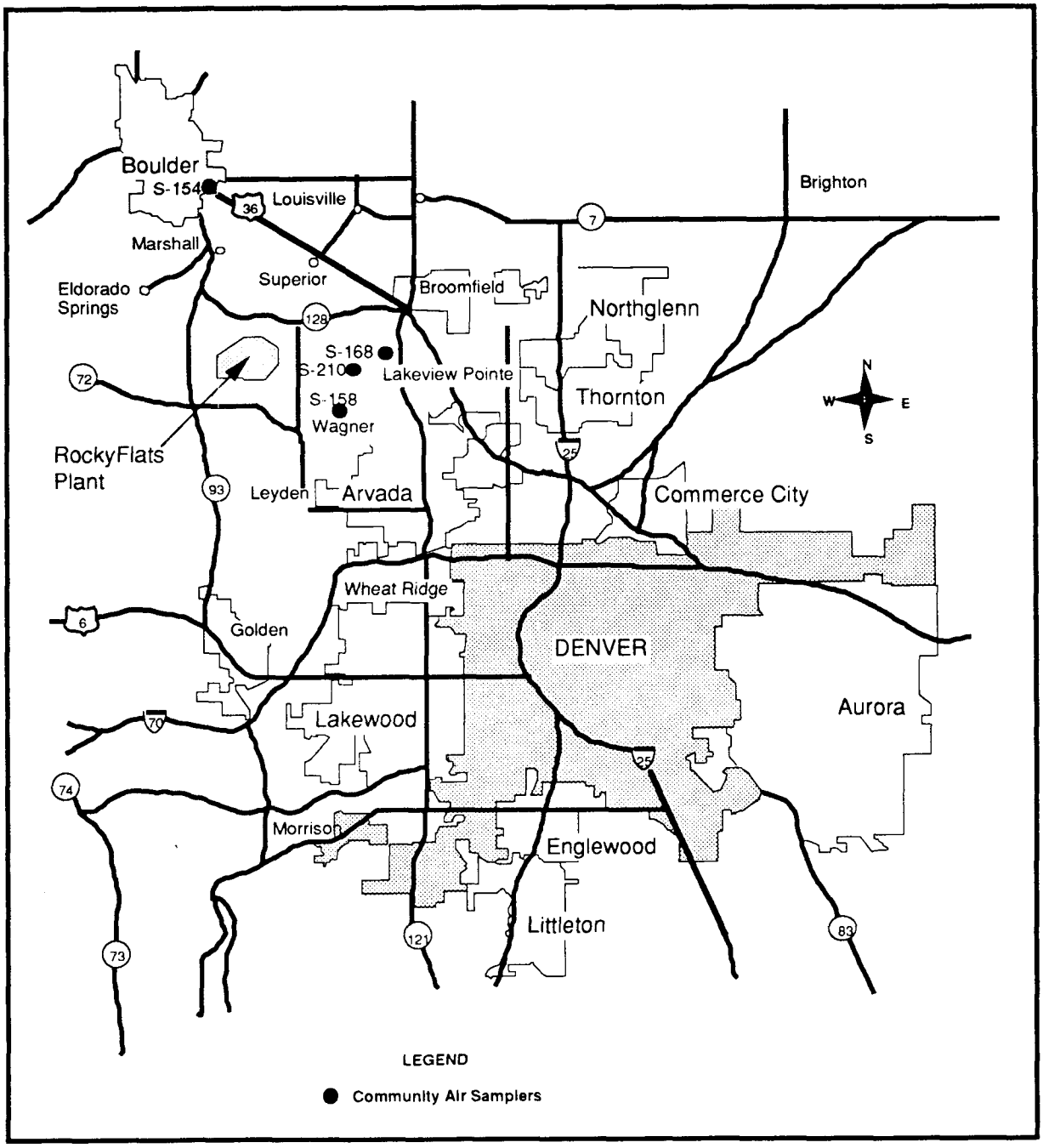
COMMUNITY AIR SAMPLERS



**APPENDIX 2**
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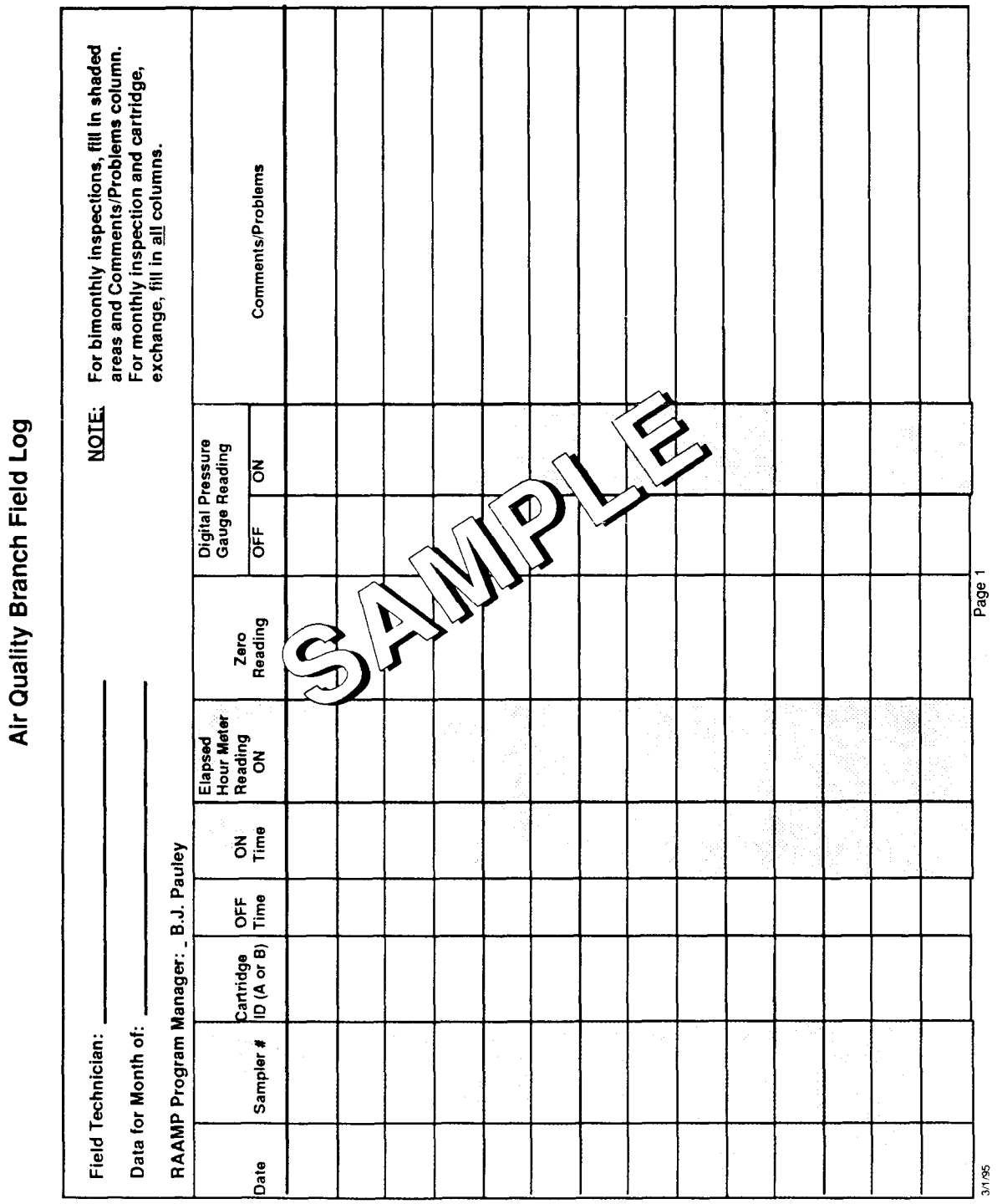
## AIR QUALITY BRANCH FIELD LOG



**APPENDIX 2**
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| Date | Sampler # | Cartridge ID (A or B) | OFF Time | ON Time | Elapsed Hour Meter Reading ON | Zero Reading | Digital Pressure Gauge Reading OFF | Digital Pressure Gauge Reading ON | Comments/Problems |
|---|---|---|---|---|---|---|---|---|---|
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SAMPLE

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**APPENDIX 2**
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| Date | Sampler # | Cartridge ID (A or B) | OFF Time | ON Time | Elapsed Hour Meter Reading ON | Zero Reading | Digital Pressure Gauge Reading OFF | Digital Pressure Gauge Reading ON | Comments/Problems |
|---|---|---|---|---|---|---|---|---|---|
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**Pre-1994 Air Samplers**

| Sampler No. | Initial Reading Date | Initial Reading Meter Reading | Initial Reading Air Flow | Final Reading Date | Final Reading Meter Reading | Final Reading Air Flow | Comments/Problems |
|---|---|---|---|---|---|---|---|
| 005 | | | | | | | |
| 006 | | | | | | | |
| 007 | | | | | | | |
| 009 | | | | | | | |
| 038 | | | | | | | |

3/1/95